



Wide Area Walk Mower

Owner/Operator Manual

Manuel du Propriétaire/Utilisateur



Models

911411 – WAW 34



(GB) ENGLISH

(F) FRENCH

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INTRODUCTION

NON-ENGLISH MANUALS



Manuals in languages other than English may be obtained from your Dealer. Visit your dealer or www.gravely.com for a list of languages available for your equipment.

Manuals printed in languages other than English are also available as a free download on our website:

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THE MANUAL

Before using the unit, carefully and completely read your manuals. The contents will give you an understanding of safety instructions and controls during normal operation and maintenance.

All reference to left, right, front, or rear are given from the operator's position, facing the direction of forward travel.

SERVICE AND REPLACEMENT PARTS

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are also printed on a serial number label, located on the frame of your unit (Figure 1).

Unit Serial Number Label



Figure 1

- Record Unit Model and Serial numbers here:

- Record Engine Model & Serial numbers here:

PRODUCT REGISTRATION

The Gravely dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

Customer Note: If the Dealer does not register your product, please fill out, sign and return the product registration card to Gravely or go to www.gravely.com on the internet.

UNAUTHORIZED REPLACEMENT PARTS

Use only Gravely replacement parts. Replacing any part on this vehicle with anything other than a Gravely authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Gravely disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts. To locate your nearest Gravely Dealer, go to www.gravely.com on the internet.

DEALER DELIVERY

Dealer should:

1. Check that all assembly and adjustments have been properly completed.
2. Fill out Original Purchaser Registration Card and return the card to Gravely.
3. Explain Gravely Limited Warranty Policy.
4. Explain recommended lubrication and maintenance. Advise customer on adjustments. Remind customer to change oil in 4 cycle engine crankcase after first five (5) hours of operation.
5. Instruct customer on controls and operation of unit. Discuss and emphasize the Safety Rules. Give customer Owner/Operator, Parts, and Engine manuals. Advise customer to thoroughly read and understand them.

DISCLAIMER

Gravely reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not apply to your unit.

SAFETY



WARNING: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the safety instructions in the manuals and on decals could result in serious injury or death.

Slopes are a major factor related to slip and fall accidents. Operation on all slopes requires extra caution.

Tragic accidents can occur if the operator is not alert to the presence of children. Never assume that children will remain where you last saw them.

Gasoline is extremely flammable and the vapors are explosive, handle with care.

Stop unit and engine and allow moving parts to stop before leaving operator's position.



CAUTION: POTENTIALLY HAZARDOUS SITUATION! If not avoided, **MAY RESULT** in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTATIONS

NOTE: General reference information for proper operation and maintenance practices.

IMPORTANT: Specific procedures or information required to prevent damage to unit or attachment.

PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area.

SAFETY ALERTS



Look for these symbols to point out important safety precautions. They mean:



Attention!

Personal Safety Is Involved!

Become Alert!

Obey The Message!

The safety alert symbols above and signal words below are used on decals and in this manual.

Read and understand all safety messages.



DANGER: IMMINENTLY HAZARDOUS SITUATION! If not avoided, **WILL RESULT** in death or serious injury.



WARNING: POTENTIALLY HAZARDOUS SITUATION! If not avoided, **COULD RESULT** in death or serious injury.

SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged safety decals. Refer to Figure 2 for safety decal locations.

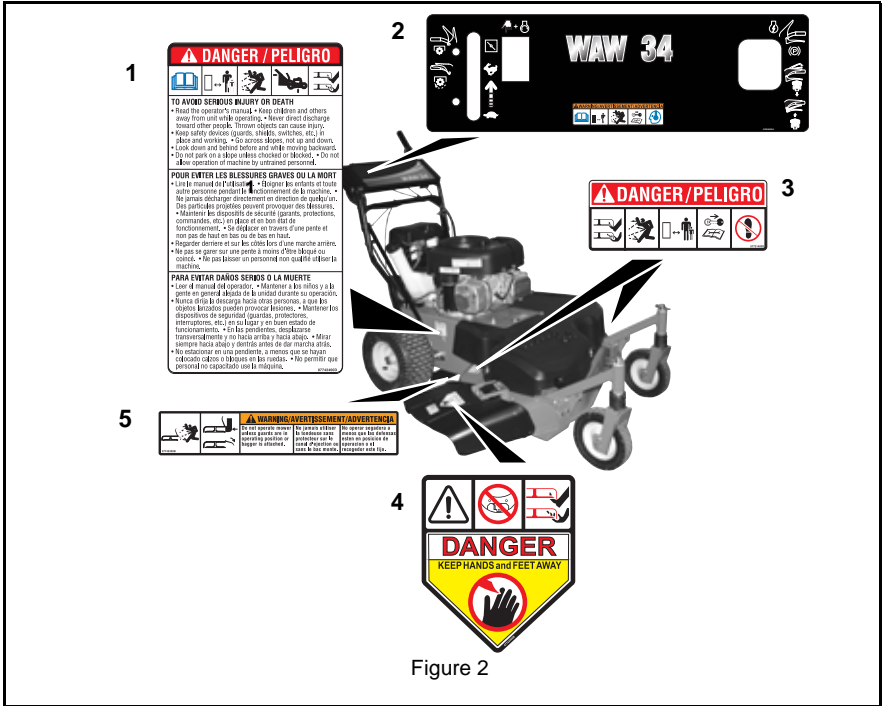


Figure 2

1. DANGER! TO AVOID SERIOUS INJURY OR DEATH

Read the operator's manual.



OL1801

Keep children and others away from unit while operating.



OL4370

Never direct discharge toward other people. Thrown objects can cause injury.



OL0910



OL1812

Do not operate mower unless guards are in operating position or entire bagger is attached.



Keep safety devices (guards, shields, switches, etc.) in place and working.

- Go across slopes, not up and down.
- Look down and behind before and while moving backward.
- Do not park on a slope unless chocked or blocked.
- Do not allow operation of machine by untrained personnel.

2. WARNING!



OL1801

Read the operator's manual.



OL4370

Keep children and others away from unit while operating.



OL0910

Never direct discharge toward other people. Thrown objects can cause injury.



OL1812

Shut off engine, remove key, and read manual before you adjust or repair unit.



Wear appropriate hearing protection.

3. DANGER! ROTATING PARTS



OL1809

Always keep feet and hands away from rotating parts.



OL1810

Always stand clear of discharge area. Do not direct discharge toward other people.



OL1811

Keep people away from unit while operating.



OL1812

Shut off engine, remove key, and read manual before you adjust or repair unit.



OL1813

NO STEP! Always keep feet away from rotating parts.

4. DANGER!

KEEP HANDS AND FEET AWAY

Do not operate mower unless guards are in operating position or bagger is attached.

5. WARNING!



OL1814

Always stand clear of discharge area.



OL1815

Do not operate mower unless bagger is attached or guards are in operating position.

SAFETY RULES

If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

Learn applicable rules and laws in your area, including those that may restrict the age of the operator.

Read, understand and follow all safety practices in Owner/Operator Manual before beginning assembly. Failure to follow instructions could result in personal injury and/or damage to unit.

If the operator or the mechanic cannot read the manual, it is the owner's responsibility to explain it to them. Only the user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

ALWAYS disconnect wire from spark plug before assembly. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

- work area
- your unit
- all safety decals.

Clear work area of stones, sticks, wire and foreign objects which might be picked up and thrown. Tall grass can hide obstacles.

Know the work area. Stay alert for holes, rocks, rough terrain and hidden hazards.

Keep away from drop-offs, ditches, or embankments that could cause operator to lose footing or control of unit.

ALWAYS be aware of traffic when operating along streets or curbs.

Keep work area clear of all persons, children and pets.

Keep children out of the work area and under the watchful care of a responsible adult.

ALWAYS operate unit when there is good visibility and light.

DO NOT mow wet grass.

ALWAYS be sure of your footing. Keep a firm hold on handlebar. Walk, NEVER run.

Engine/blade control feature on mower stops engine and blade within 5 seconds whenever operator releases PTO lever. Check this feature frequently. If feature fails to operate, disconnect spark plug wire and adjust or have it repaired before using unit.

Only trained adults may operate or service unit. Training includes actual operation. The owner is responsible for training users.

NEVER operate after or during the use of medication, drugs or alcohol. Unit requires complete and unimpaired attention.

NEVER allow children to use or service mower.

ALWAYS keep hands and feet away from rotating parts. Rotating parts can cut off body parts.

ALWAYS keep hands away from pinch points. Fumes from engine exhaust can cause death or serious injury. DO NOT run engine in an enclosed area.

ALWAYS protect eyes, face, and body with adequate safety gear and protective clothes. Wear sturdy footwear, gloves, a hard hat and safety goggles or safety glasses with side shields while operating mower.

Wear appropriate hearing protection.

NEVER operate mower barefoot or when wearing open sandals or canvas shoes.

NEVER wear loose clothes, long hair or jewelry that may get caught in rotating parts.

ALWAYS stand clear of discharge when operating unit.

NEVER direct discharge toward bystanders.

Operator is responsible for bystander safety. DO NOT touch hot parts. Allow parts to cool.

Keep safety devices or guards in place and functioning properly. NEVER modify or remove safety devices.

Read, understand, and follow all instructions in the manual and on the machine before starting. Understand:

- How to operate all controls
- The functions of all controls
- How to STOP in an emergency.

DO NOT attempt to start your engine until you know what the controls do and how they work.

DO NOT tilt mower when starting it.

Keep feet away when starting engine.

DO NOT start the engine or operate mower without side discharge cover or side discharge deflector installed.

Never leave a running unit unattended.

Take all possible precautions when leaving unit unattended.

ALWAYS shut off engine and disconnect spark plug wire to prevent accidental starting or unauthorized use.

Stop engine if anyone enters the work area.

NEVER attempt to make any adjustments to unit while engine is running (except where specifically recommended). Stop engine and wait for all moving parts to stop before servicing.

DO NOT make cutting height wheel adjustments while the engine is running.

If you strike an object, or if equipment vibrates abnormally, stop engine at once, wait for moving parts to stop and disconnect wire from spark plug. Repair any damage before restarting unit.

Stop engine before removing and emptying grass bag.

When mulching or bagging, ALWAYS install discharge cover.

When side discharging, ALWAYS install side discharge deflector.

ALWAYS shut off engine, allow blade to stop and disconnect spark plug wire before clearing clogs or cleaning unit.

Check grass bag for wear, damage, and/or deterioration. Replace only with Gravelly original equipment replacement parts for safety.

To reduce fire hazard and overheating, keep equipment free of grass, leaves, debris or excessive lubricants.

Use extra care when approaching blind corners, shrubs, trees, or other objects which may obscure vision.

DO NOT mow at too fast a rate. DO NOT change engine governor setting or over-speed the engine.

Do not operate mower on gravel or loose material such as sand. Stop mower when crossing drives, walks, or roads to prevent damage or injury from thrown objects.

DO NOT pull mower backwards unless absolutely necessary. Look down and back, especially for small children, before and while moving backwards.

On self-propelled models, releasing wheel drive control must stop mower's forward movement. If this feature fails to operate, disconnect spark plug wire and repair before using unit.

On self-propelled models, wheel drive must be disengaged when starting engine.

DO NOT operate on steep slopes.

NEVER leave unit unattended on a slope.

Check wheels if parking on a slope.

Mow across the face of slopes, never up and down. Be especially cautious when changing direction on slopes.

This product is equipped with an internal combustion engine. DO NOT use on or near any unimproved, forest or brush covered land unless the exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if used, must be maintained in effective working order by the operator. See your Gravelly Dealer or engine manufacturer's service center.

Emission Control System Certification Label

NOTE: Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by EPA and/or CARB authorized service centers. Contact your Gravelly Equipment Retailer concerning emission controls and component questions.

Fuel is highly flammable and its vapors can explode. ONLY use approved fuel containers.

- NO Smoking!
- NO Sparks!
- NO Flames!
- Allow engine to cool before filling fuel tank.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

Check fuel supply before starting engine.

DO NOT fill gasoline tank indoors, when engine is running, or while engine is hot.

Allow engine to cool several minutes before removing fuel cap.

DO NOT overfill. Allow about 1/4" (6 mm) of tank space for fuel expansion.

Replace gasoline tank cap securely and clean any spilled fuel before starting engine.

If fuel is spilled on clothing, change clothing immediately.

NEVER store fuel inside where there is an open flame, such as a water heater.

ALWAYS drain fuel outdoors away from ignition sources.

ALWAYS shut off engine when transporting unit on a truck or trailer.

Avoid Electric Shock. DO NOT disconnect wire from spark plug while engine is running.

Do NOT put battery in fire or mutilate.

Explosive Gases!

NO flames, NO sparks, NO smoking, near battery.

Poisonous battery fluid contains sulfuric acid. Contact with skin, eyes or clothing can cause severe chemical burns.

ALWAYS wear safety glasses and protective gear near battery.

ALWAYS keep batteries out of reach of children.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Charge batteries in an open, well-ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting battery. Wear protective clothing and use insulated tools.

Accidental engine start up can cause death or serious injury. Except where specifically recommended, ALWAYS stop engine, wait for moving parts to stop, allow parts to cool and disconnect spark plug wire before inspecting, servicing, adjusting or repairing unit.

Keep mower free of grass, leaves, or other debris build-up.

Keep equipment in good condition.

Maintain or replace safety and instruction labels, as necessary.

Follow engine manufacturer's safety instruction when servicing engine.

Check all hardware at regular intervals, especially blade attachment bolts. Keep all hardware properly tightened.

An extension spring, when extended, stores energy and can be dangerous. Always use tools specifically designed for installing or removing an extension spring. Always compress or extend springs slowly.

Before tipping unit, remove fuel.

Use extra care when loading or unloading unit onto trailer or truck.

Ensure all wheel blocks, jack stands and tie downs will support unit during maintenance.

Replace worn-out mufflers immediately. Continued use could result in fire or explosion.

Sharp edges can cut or amputate fingers or a hand. Wrap blade or wear sturdy gloves to service.

Only replace blades. NEVER straighten or weld blades.

Use only replacement parts designed for your unit. See your Gravely Dealer.

Allow engine to cool before storing in any enclosure.

ALWAYS clean unit before extended storage. See engine manual for proper storage.

DO NOT store unit inside a building with fuel in the fuel tank where any ignition sources are present.

Use only accessories which have been approved by Gravely and are properly installed.

Use only accessories or attachments that are designed for your unit and that can be used safely on your terrain.

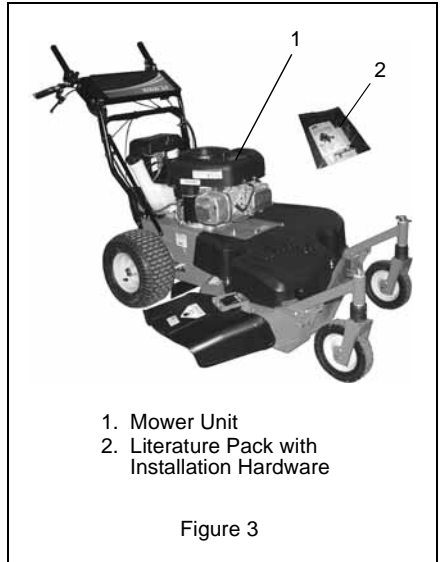
Check attachments frequently and replace worn or damaged components with manufacturer's recommended parts.

ASSEMBLY



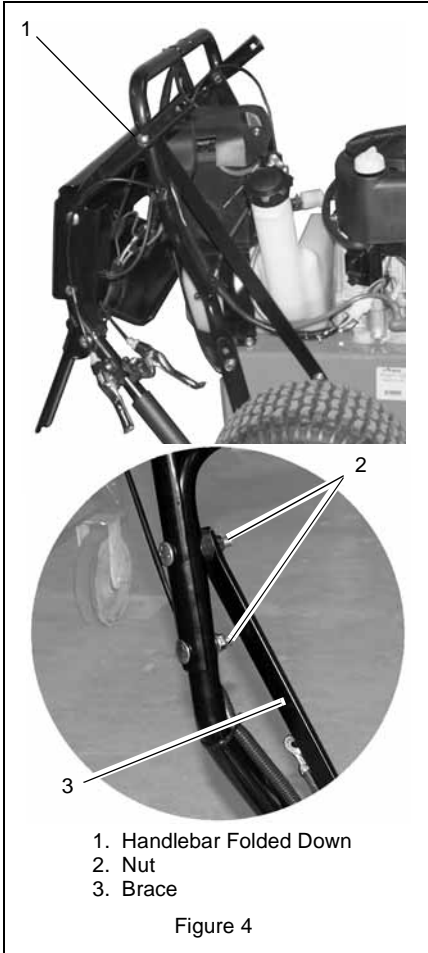
CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

CARTON CONTENTS



ASSEMBLY

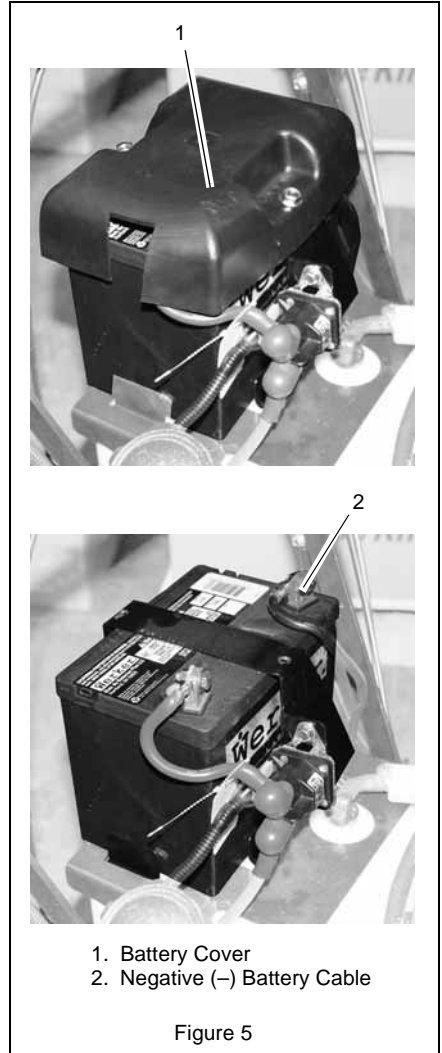
1. Remove all packing materials and straps from unit.
2. Remove one pair of nuts and bolts from the handlebars.
3. Rotate the handlebar into the operating position and connect the two braces to the handlebars.
4. Replace the nuts removed in step 1 and then tighten all four nuts.



5. Check engine crankcase oil level. See engine manual.
6. Connect the battery ground cable (-) to the negative battery terminal.
7. Fill fuel tank. See *FILLING THE FUEL TANK* on page 14.

NOTE: After the first twenty-five hours of operation, belt wear may require the PTO clutch cable and the drive control cables to be adjusted. See *Forward/Reverse Drive Controls* on page 19 and *Wheel Drive Belts* on page 20.

IMPORTANT: Do not operate the unit without understanding how the controls work and how to safely start, stop and operate the unit.



CONTROLS AND FEATURES

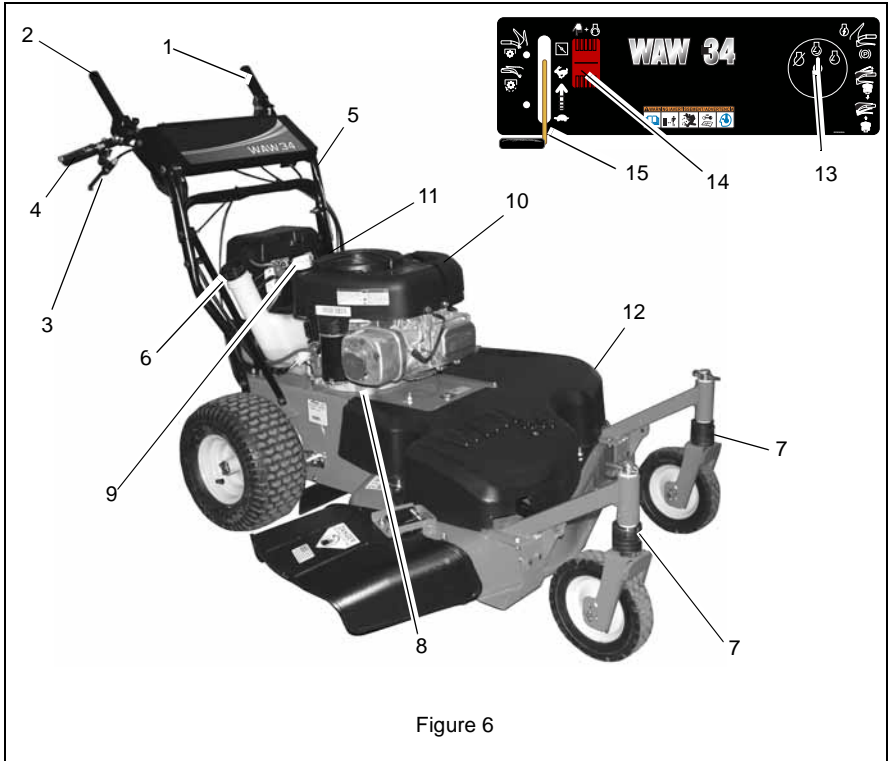


Figure 6

1. PTO Clutch Lever
2. Parking Brake Release Lever
3. Forward Drive Control
4. Reverse Drive Control
5. Handlebars
6. Fuel Tank and Cap
7. Height Adjustment Spacers
8. Muffler
9. Oil Fill/Dipstick
10. Air Filter
11. Fuel Filter
12. Belt Cover
13. Ignition Key
14. Safety Start Switch
15. Throttle/Choke Control

OPERATION

CONTROLS AND FEATURES

See Figure 6 for locations.



WARNING: Improper operation can lead to injury. Learn what the controls do and how they work. Thoroughly read and understand entire Operator Manual.



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

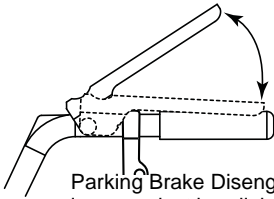
Parking Brake Lever (Right Hand Lever)

Hold the parking brake lever against the handlebar to release the wheel lock pin and operate the unit.

Release the parking brake lever to engage wheel lock pin and prevent the unit from rolling forward or backward.

IMPORTANT: The wheel lock pin prevents the unit from rolling forward or backward. The unit can still pivot from side to side.

Parking Brake Engaged: Unit will not roll forward or backward.



Parking Brake Disengaged: Hold lever against handlebar to operate the unit.

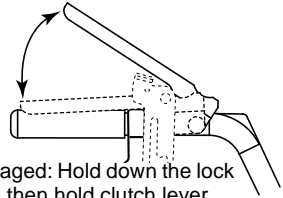
PTO Clutch Lever (Left Hand Lever)

Hold down the lock lever and then squeeze the PTO clutch lever against the handlebar to engage the clutch and start the mower blades.

Release the clutch lever to stop the blades.

NOTE: The lock lever prevents the PTO clutch lever from being squeezed accidentally. It will engage each time you release the clutch lever.

PTO Disengaged: Mower blades stop rotating.



PTO Engaged: Hold down the lock lever and then hold clutch lever against handlebar to engage the clutch and start the mower blades.

CUTTING HEIGHT ADJUSTMENT



DANGER: Avoid injury from rotating blade.
ALWAYS shut off engine before adjusting cutting height.

Cutting Height Settings Chart

Spacers Below Caster Arms	Cut Grass Length
0	1-3/4" (44.4 mm)
1	2" (50.8 mm)
2	2-1/2" (63.5 mm)
3	2-3/4" (69.8 mm)
4	3" (76.2 mm)
5	3-1/4" (82.6 mm)
6	3-1/2" (88.9 mm)

NOTE: Placing the spacers above the caster arm lowers the deck and decreases cutting height. Placing the spacers below the caster arm raises the deck and increases the cutting height.

To change cutting height, remove the lock pin from the top of the caster fork. Raise the caster arm high enough to expose the flats and lower pin hole on the caster fork spindle. Insert the lock pin into the lower hole to support the arm while adjusting the cutting height spacers (Figure 7).

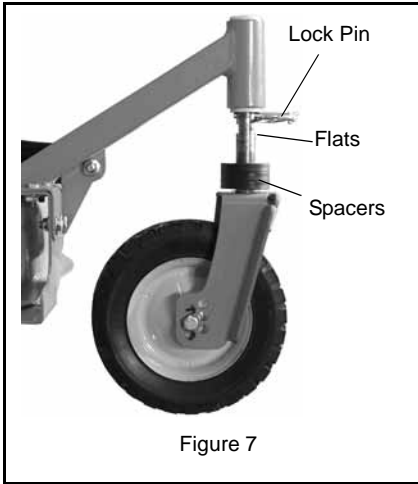


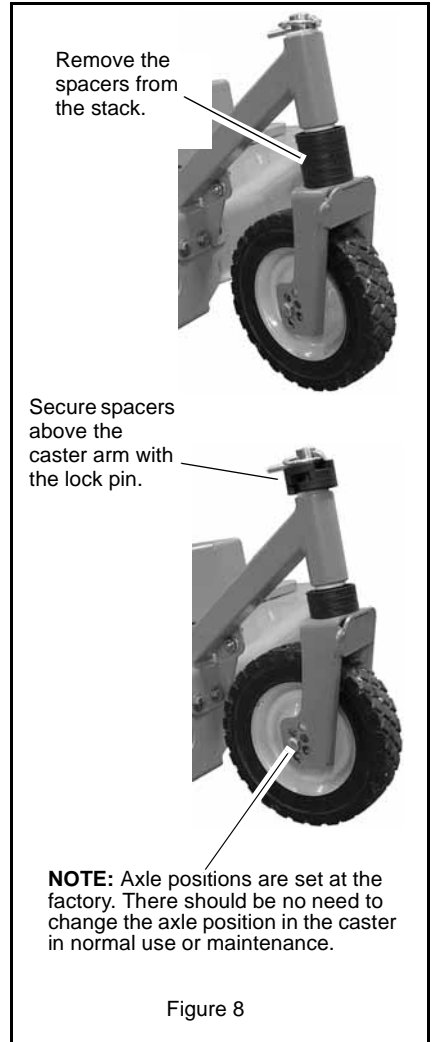
Figure 7

Align the open ends of the spacers with the flats on the caster spindle and remove the spacers one at a time until enough are left at the bottom for the desired cutting height.

Remove the lock pin while supporting the caster arm. Lower the arm on top of the remaining spacers. Put the spacers that were removed in the caster spindle above the support tube as shown (Figure 8).

Reinstall the lock pin into the top hole and flip over the lock ring to secure the remaining spacers and pin.

NOTE: Set both wheels at the same height for a level cut.



NOTE: Axle positions are set at the factory. There should be no need to change the axle position in the caster in normal use or maintenance.

Figure 8

Forward Drive Control (Lower Right Hand Control)



CAUTION: Unit will move at engine start if the wheel drive controls are engaged. ALWAYS release the wheel drive controls before starting unit.

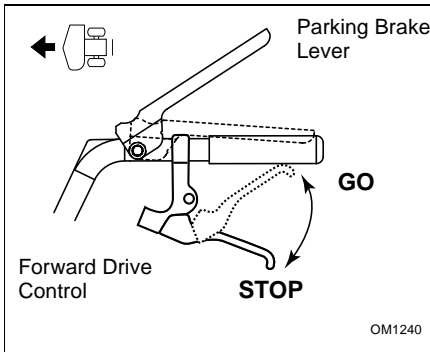
NOTE: Engine must be running for wheel drive to propel unit.

To drive forward:

Hold the parking brake lever against the handlebar and slowly squeeze and hold the forward drive control. Hold the forward drive control against the handlebar for fastest speed.

To stop:

Release forward drive control.



Reverse Drive Control (Side Right Hand Control)



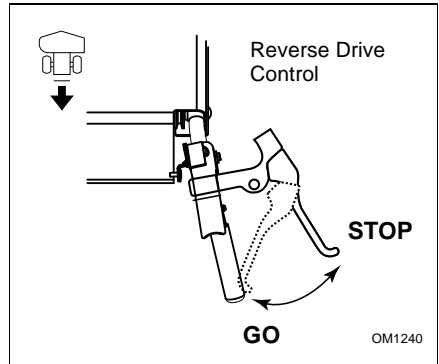
CAUTION: Unit will move at engine start if the wheel drive controls are engaged. ALWAYS release the wheel drive controls before starting unit.

To drive in reverse:

Hold the parking brake lever against the handlebar and slowly squeeze and hold the reverse drive control. Hold the reverse drive control against the handlebar for fastest speed.

To stop:

Release reverse drive control.



FILLING THE FUEL TANK

To add fuel to fuel tank:

1. Put unit in open or well-ventilated area.
2. Stop engine and allow to cool.
3. Clean fuel cap and surrounding area.
4. Remove cap.

IMPORTANT: See engine manual for correct type and grade of fuel.

5. Fill fuel tank. (see *SPECIFICATIONS* on page 26 for tank capacity.)
6. Replace fuel cap and tighten.
7. ALWAYS clean any spilled fuel.

GASOLINE

IMPORTANT: ALWAYS use gasoline that meets the following guidelines:

- Clean, fresh gasoline.
- A minimum of 87 octane/87 AKI (91 RON). High altitude use may require a different octane. Consult your engine manual.
- Gasoline with up to 10% ethanol (gasohol) or up to 15% MTBE (methyl tertiary butyl ether) is acceptable.
- Use of any gasoline other than those approved above may void the engine warranty. If the pumps are not marked for the content of alcohol or ethers, check ethanol and MTBE levels with the fuel supplier.
- Do not modify the fuel system to use different fuels.
- Never mix oil and gasoline.

NOTE: All gasoline is not the same. If the engine experiences starting or performance problems after using a new gasoline, switch to a different fuel provider or fuel brand.

IMPORTANT: Excessively oxygenated or reformulated fuels (fuels blended with alcohols or ethers) can damage the fuel system or cause performance problems. If any undesirable operating problems occur, use a gasoline with a lower percentage of alcohol or ether.

Fuel Stabilizer

Gasoline left in the fuel system for extended periods without a stabilizer will deteriorate, resulting in gum deposits in the system. These deposits can damage the carburetor and the fuel hoses, filter and tank. Prevent deposits from forming in the fuel system during storage by adding a quality fuel stabilizer to the fuel. Follow the recommended mix ratio found on the fuel stabilizer container.

EMERGENCY STOPPING

NOTE: The engine will run after the clutch and parking brake levers are released. ALWAYS shut off the engine with the ignition key and remove the key before leaving the operator's position.

To stop the mower in an emergency:

1. Release the PTO clutch lever and the parking brake lever.
2. Turn the ignition key to the "OFF" position.
3. Allow all moving parts to stop before leaving operator's position.

STARTING AND SHUT OFF



WARNING: Improper operation can lead to injury. Learn what the controls do and how they work. Thoroughly read and understand entire Operator Manual.

See Figure 6 for all Controls and Features.

NOTE: Start engine on a level surface that is free of debris.

Electric Start

1. Check each item under Before Each Use in the *MAINTENANCE SCHEDULE* on page 16.
2. Place throttle control in the choke position. Once the engine has started, place throttle in the high speed detent.
3. Hold down the safety switch on the dash panel and turn the ignition key to the Start position.
4. Release the key and the safety switch once engine starts.

Shut Off

1. Release the PTO clutch lever, the parking brake lever, and the wheel drive controls and allow unit to stop completely.
2. Turn the ignition key to the "OFF" position.

Mowing Tips

Cut grass when it is dry.

Keep mower blades sharp.

Do not set cutting height too low. For tall grass, mow twice.

Do not mow too fast.

Mow with engine at full throttle. Discharge clippings into areas already cut.

Vary cutting pattern with each mowing.

NOTE: To prevent dirt and grass from collecting on mower pan, avoid operating over bare ground with only patches of grass.

Mulching Tips

For best mulching performance, cut no more than 1 inch (2.54 cm) of grass per cutting.

MAINTENANCE



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

Gravely Dealers will provide any service, parts or adjustments which may be required to keep your unit operating at peak efficiency. Should engine require service, contact a Gravely Dealer or an authorized engine manufacturer's service center.

MAINTENANCE SCHEDULE

NOTE: Some working conditions (heavy loads, high ambient temperatures, dusty conditions, or airborne debris) may require more frequent service.

See engine manual for further maintenance and troubleshooting information.

MAINTENANCE SCHEDULE

Service Performed	Before Each Use	25 hrs	50 hrs	100 hrs
Check PTO Clutch	•			
Check Wheel Drive Control	•			
Clean Unit	•			
Check Engine Oil	•			
Check Mower Blade	•			
Check Drive Belts	•			
Check Fasteners	•			
Check Air Cleaner		•		•
Change Engine Oil			•*	
General Lubrication		•		
Check Spark Plug				•
Check Engine Cooling	•			•
Check Muffler				•

* After first 5 Hours of operation.

CHECK PTO CLUTCH LEVER CONTROL

The engine and blade must stop within 5 seconds after releasing the control. If the blade continues to run, adjust or repair control immediately.

NOTE: If the blade makes a scraping sound when the PTO lever is released, the blade brake is faulty. Contact a Gravely Dealer immediately for repair.

CHECK WHEEL DRIVE CONTROL

The unit must stop quickly and completely when the drive controls are released. Adjust or repair if necessary. See *Forward/Reverse Drive Controls* on page 19.

CLEAN UNIT

Before each use clean unit, muffler and engine surfaces of debris, oil or fuel spills to ensure proper cooling and prevent fires.

NOTE: Do not spray the unit with water, especially when the unit is warm from operation. Water can seep into bearings and damage them.

CHECK ENGINE OIL

IMPORTANT: Maintain proper oil level at all times or engine damage will result.

Check the level of the engine crankcase oil before each use.

Make sure engine is level when checking oil. See engine manual for instructions.

CHECK MOWER BLADE

See Figure 10.

Check blade mounting: blade must be secure and torqued to 92 – 130 lbf-ft (125 to 176 N•m).

Check blade for nicks and dull cutting edges. Sharpen if necessary.

Check blade for rounded or broken ends, thinned metal or other damage. Replace if necessary.

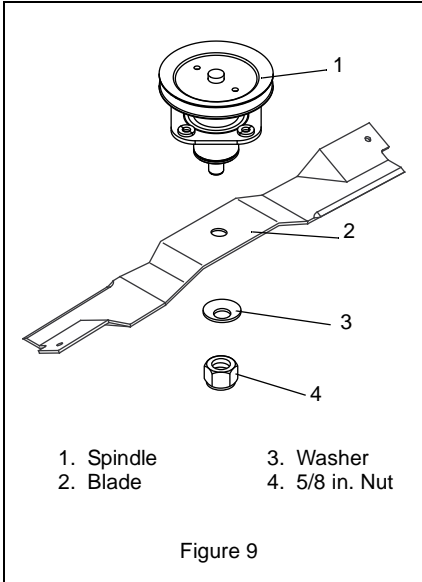
NOTE: Blades should be sharpened and balanced professionally. Contact your Gravely Dealer.

To remove blade:

1. Stop engine, wait for all moving parts to stop, and disconnect spark plug wire.
2. Block blade to prevent rotation.
3. Remove mounting hardware and mower blades from mower deck. See Figure 9.

To install blade:

1. Install mower blades on mower deck with mounting hardware.
2. Torque 5/8-inch nut to 92 to 130 lbf-ft (125 to 176 N•m).
3. Connect spark plug wire.



Sharpen the Mower Blades



CAUTION: DO NOT sharpen mower blades while on unit. An imbalanced mower blade will cause excessive vibration and eventual damage to unit. Check mower blade balance before reinstalling blades. NEVER weld or straighten bent blades.

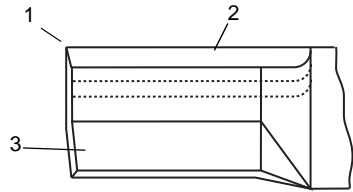
1. Remove mower blade from unit.

Discard mower blade if:

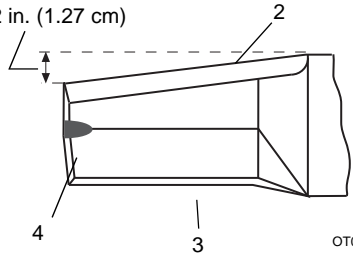
- More than 1/2 in. (1.27 cm) of metal is removed.
- Air lifts become eroded.
- Blade is bent or broken.

2. Sharpen mower blade by removing an equal amount of material from each end of mower blade. DO NOT change angle of cutting edge or round the corner of the mower blade.

DO NOT Sharpen to This Pattern



DISCARD If More Than
1/2 in. (1.27 cm)



OT0792

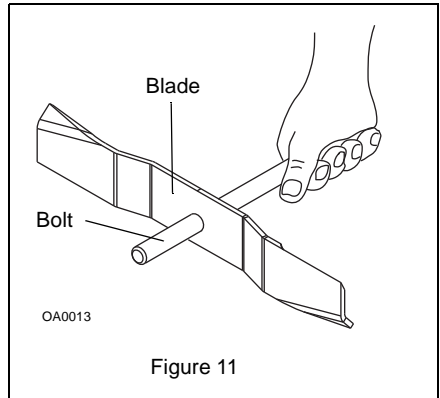
Sharpen to This Pattern

1. Square Corner
2. Cutting Edge
3. Air Lift
4. Air Lift Erosion

Figure 10

3. Check mower blade balance.

Slide mower blade on an unthreaded bolt. A balanced blade should remain in a horizontal position. If either end of mower blade moves downward, sharpen the heavy end until blade is balanced (Figure 11).



4. Install mower blade on unit.
5. Torque 5/8-inch nut to 92 to 130 lbf-ft (125 to 176 N•m).

CHECK DRIVE BELTS

Check drive belts and replace if worn or damaged. See *Wheel Drive Belts* on page 20.

CHECK FASTENERS

Check all fasteners for proper tightness. Pay special attention to blade hardware and all guards, shields and safety devices.

CHECK AIR CLEANER

See engine manual for specific information.

CHANGE ENGINE OIL

IMPORTANT: Change engine crankcase oil after first five (5) hours of operation. Then change oil after every 25 hours of operation.

Refer to engine manual for instructions and proper oil type.

IMPORTANT: Proper oil level must be maintained at all times or engine damage will result. **DO NOT** overfill. Be sure engine is level when adding oil.

GENERAL LUBRICATION

The unit has sealed maintenance-free spindles and transmission. The unit should not require lubrication except for light oil or grease at pivot points.

CHECK SPARK PLUG

Spark plug should be replaced every 100 hours of operation or each year.

NOTE: Loose spark plug wire terminals can cause sparking. Replace terminal if damaged.

CHECK ENGINE COOLING



WARNING: HOT SURFACES can cause death or serious injury. **DO NOT TOUCH** parts which are hot from operation. **ALWAYS** allow parts to cool.

To prevent overheating, air must circulate freely around the cooling fins, cylinder head and block.

Every 100 hours of operation or yearly (more often if conditions require) remove blower housing and clean cooling fins. See engine manual for instructions.

CHECK MUFFLER

Check muffler for debris, cracks, wear, or other damage.



CAUTION: Replace worn-out mufflers immediately. Continued use could result in fire or explosion.

SERVICE AND ADJUSTMENTS



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

PTO CLUTCH



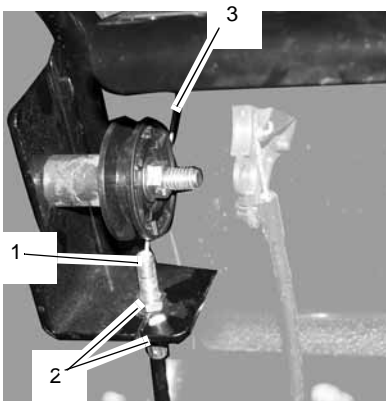
WARNING: If you cannot adjust the controls so the unit drives properly, immediately take the unit to your local authorized dealer for repairs.

1. Test the PTO clutch adjustment.
With the clutch disengaged, the blade brake pad should touch the upper pulley. With the clutch engaged, the blade brake pad should not touch the upper pulley and the deck belt should be under tension.
2. Loosen the lock nut on the cable adjuster under the dash panel.
3. Turn the adjuster body to tighten or loosen the clutch cable.

NOTE: There must be some slack in the clutch cable with the clutch disengaged.

4. Tighten the lock nut to hold the adjustment.

IMPORTANT: If you cannot adjust the PTO clutch or if it fails to operate properly, immediately take the unit to your Gravelly dealer for repair.



1. Cable Adjuster
2. Lock Nut
3. Check Slack

Figure 12

Forward/Reverse Drive Controls



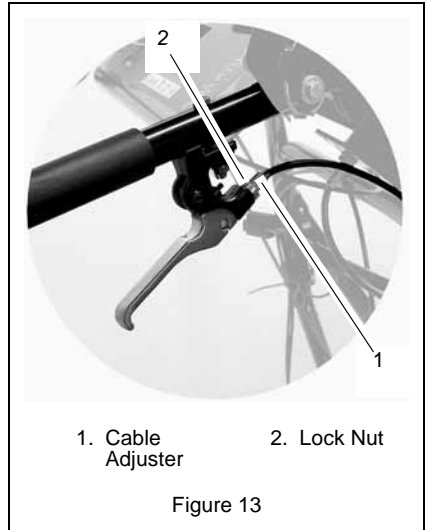
WARNING: If you cannot adjust the controls so the unit drives properly, immediately take the unit to your local authorized dealer for repairs.

After new belts have been worn in or if the drive seems to be losing power, the drive control cable may need adjustment.

Adjust both drive controls the same way.

1. Loosen the lock nut on the drive lever.
2. Turn the cable adjuster to tighten or loosen the cable.
3. Tighten the lock nut to hold the adjustment.
4. Test the drive.
Unit should move forward when the drive control is squeezed and it should coast to a stop when the drive control is released.

NOTE: The reverse drive control has been removed from the unit for clarity of the illustration.



1. Cable Adjuster
2. Lock Nut

Figure 13

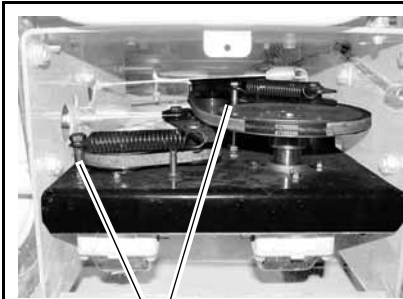
BELT REPLACEMENT



WARNING: AVOID INJURY. ALWAYS block wheels, engage parking brake and know all jack stands are strong, secure and will hold weight of unit during maintenance.

Wheel Drive Belts

1. Stop engine, remove key, wait for all moving parts to stop and hot parts to cool.
2. Raise and support the rear of the unit.
3. Remove the rear cover and disconnect the neutral return springs from the spring anchors.



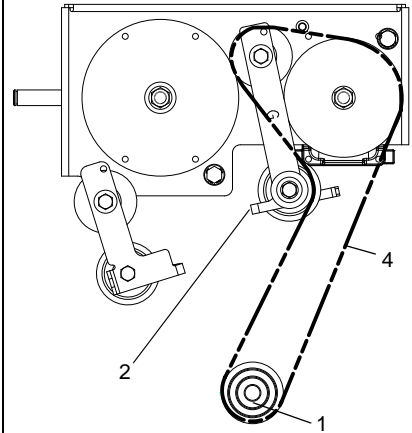
Disconnect neutral return springs from the spring anchors.

Figure 14

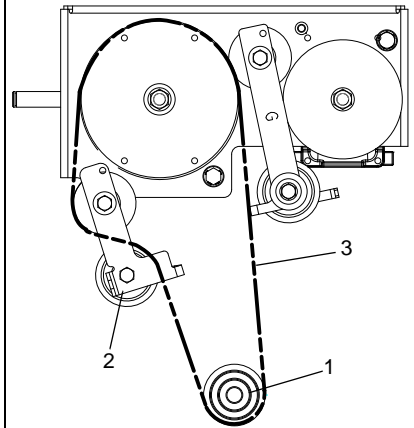
4. Remove the idler arm from the transmission plate. See Figure 15.
5. Remove the forward drive belt from the engine pulley and remove it from the unit.
6. Remove the reverse drive belt from the engine pulley and remove it from the unit.
7. Route the new reverse belt through the transmission idler arm and then install belt on the engine pulley. See Figure 15.
8. Route the new forward belt through the transmission idler arm and then install belt on the engine pulley. See Figure 15.
9. Install the idler arms on the transmission plate and install the belts on the transmission pulleys. See Figure 15.
10. Replace the rear cover.
11. Start the unit and test operation of the drive system. Adjust the wheel drive controls, if needed.

NOTE: Check the wheel drive control adjustment after the first 25 hours of use to compensate for belt wear.

Rear of Unit - Forward Drive Belt Routing



Rear of Unit - Reverse Drive Belt Routing



- | | |
|------------------|-----------------------|
| 1. Engine Pulley | 3. Reverse Drive Belt |
| 2. Idler Arm | 4. Forward Drive Belt |

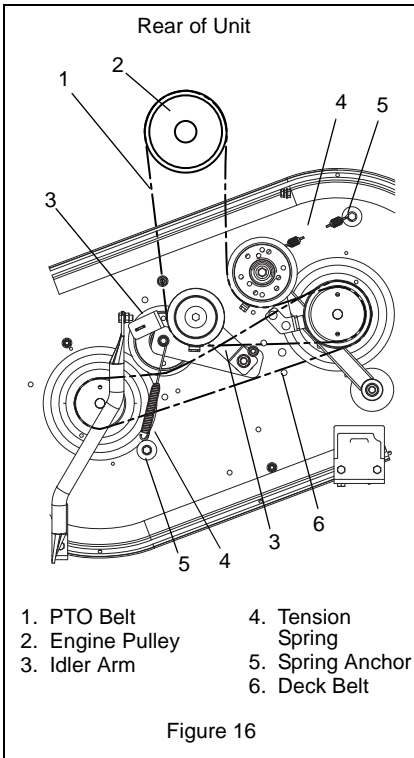
Figure 15

PTO Belt

1. Stop engine, remove key, wait for all moving parts to stop and hot parts to cool.
2. Remove the two drive belts from engine pulley. See *Wheel Drive Belts* on page 20.
3. Remove the belt cover from the deck.
4. Disconnect the two idler springs from the spring anchors.

NOTE: Do not remove the bolt holding the engine pulley to the crankshaft. Loosen it enough so the PTO belt clears the belt finger.

5. Loosen the bolt holding the engine pulley to the crankshaft and slide the pulley down until the PTO belt can be removed from the pulley.
6. Install the new belt on the engine pulley and on the deck pulleys.
7. Push the engine pulley up the crankshaft and tighten the mounting bolt to 55 lbf-ft (74.5 N•m).
8. Connect the two idler springs to spring anchors.
9. Replace the belt cover.
10. Replace the wheel two drive belts on the engine pulley.



Deck Belt

1. Stop engine, remove key, wait for all moving parts to stop and hot parts to cool.
2. Remove the two drive belts from engine pulley. See *Wheel Drive Belts* on page 20.
3. Remove the PTO belt from the PTO clutch. See *PTO Belt* on page 21.
4. Remove the two idler arms from the deck.
5. Remove the deck belt and install the new belt.
6. Replace the two idler arms on the deck.
7. Replace the PTO belt on the PTO clutch.

REPLACING MOWER BLADE

Remove (Figure 17)

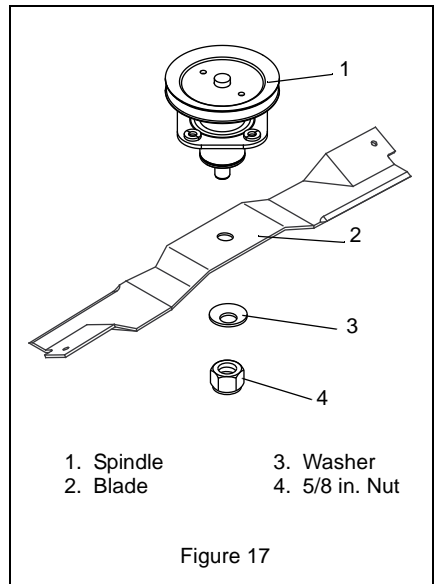


CAUTION: Mower blades are sharp and can cut you. Wrap the blades or wear gloves, and use extra caution when servicing them.

1. Block mower blades to prevent rotation.
2. Remove mounting hardware and mower blades from mower deck.

Install (Figure 17)

1. Install mower blades on spindles with mounting hardware.
2. Torque 5/8-inch nut to 92 to 130 lbf-ft (125 to 176 N•m).



SERVICING THE BATTERY

NOTE: Unit comes equipped with a maintenance-free battery that requires no regular maintenance except cleaning the terminals.



WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

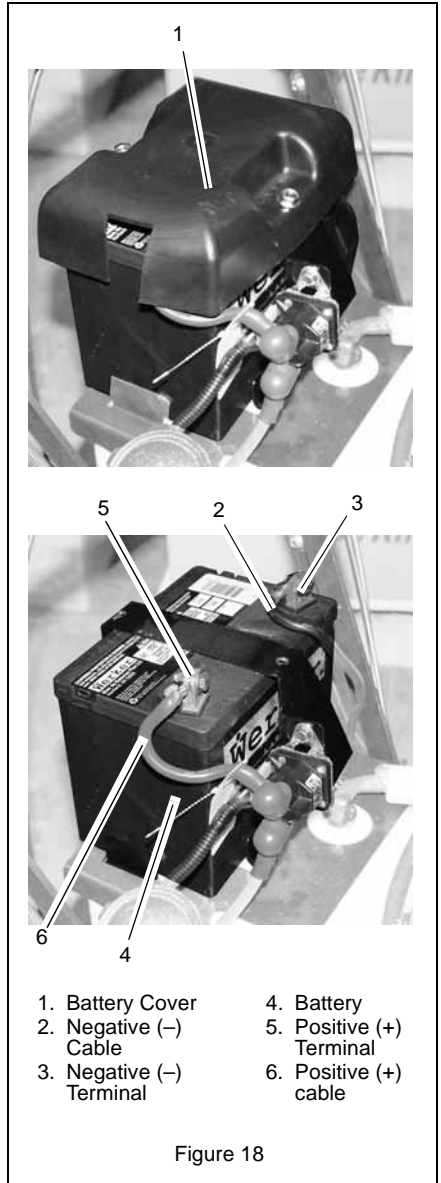
Battery Removal and Installation

Remove (Figure 18)

1. Remove the battery cover.
2. Disconnect negative (-) cable first, then positive (+) cable.
3. Remove battery from unit.

Install (Figure 18)

1. Install battery on the unit.
2. Connect positive (+) cable first, then negative (-) cable.
3. Apply petroleum jelly or dielectric grease to battery cable ends and terminals.
4. Replace the battery cover.



Cleaning Battery and Battery Cables (Figure 18)

1. Remove the battery cover.
2. Disconnect negative (-) cable first, then positive (+) cable.
3. Clean battery cable ends, negative (-) terminal, and positive (+) terminal with a wire brush and rinse with a weak baking soda solution.

4. Connect positive (+) cable first, then negative (-) cable.
5. Apply petroleum jelly or dielectric grease to battery cable ends and terminals.
6. Replace belt cover.

Charging the Battery



WARNING: FROZEN BATTERIES CAN EXPLODE and result in death or serious injury. DO NOT charge a frozen battery. Let the battery thaw before charging.

Follow First Aid directions for contact with battery fluid.

- External Contact: Flush with water.
- Eyes: Flush with water for at least 15 minutes and get medical attention immediately!
- Internal Contact: Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately!

- In case of internal contact, DO NOT induce vomiting!

IMPORTANT: DO NOT fast charge. Charging at a higher rate will damage or destroy battery.

IMPORTANT: ALWAYS follow information provided on battery and battery charger. Contact battery and battery charger manufacturers' for detailed instructions.

1. Remove battery from unit (see *Battery Removal and Installation* on page 22).
2. Place battery in a well-ventilated area.
3. Connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead of charger to negative (-) terminal.
4. Charge battery according to battery charger and battery manufacturers' instructions.
5. Install battery on unit (see *Battery Removal and Installation* on page 22).

Jump-Starting

Gravely does not recommend jump-starting your unit. Jump-starting can damage engine and electrical system components. See your engine manual for more detailed information.

STORAGE



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

IMPORTANT: NEVER spray unit with high-pressure water or store unit outdoors. Store mower in a cool, dry, protected location.

Cleaning

NOTE: Allow unit to cool before cleaning.

Clean unit thoroughly with mild soap and low pressure water. Brush off dirt and debris from all surfaces. Touch up all scratched surfaces to prevent rust. Matching touch-up paint is available from your Gravely Dealer. Do not use abrasives, solvents, or harsh cleaners.

Inspection

Inspect mower and repair or replace worn or damaged parts to avoid delays when beginning use again.

Regularly check all hardware and keep fasteners tight. Know unit is in safe working condition.

Grass Bag

Wash out grass bag and allow to dry before storage. Grass bag may be stored in position on mower.

Engine

When storing unit for extended periods of time, remove all fuel from tank and carburetor (run dry). Refer to engine manual.

Fuel System

Gasoline left in the fuel system for extended periods without a stabilizer will deteriorate, resulting in gum deposits in the system. These deposits can damage the carburetor and the fuel hoses, filter and tank. Prevent deposits from forming in the fuel system during storage by adding a quality fuel stabilizer to the fuel. Follow the recommended mix ratio found on the fuel stabilizer container.

To treat the fuel system for storage:

1. Add fuel stabilizer according to manufacturer's instructions.
2. Run engine for at least 10 minutes after adding stabilizer to allow it to reach the carburetor.

NEVER store the engine with fuel in the fuel tank inside of a building with potential sources of ignition.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
Engine will not start	<ol style="list-style-type: none"> 1. Safety switch not held down. 2. Ignition switch is faulty. 3. Wiring harness fuse is blown. 4. Loose or corroded battery cables. 5. Discharged battery. 6. Faulty starter. 7. Fuel tank empty. 	<ol style="list-style-type: none"> 1. Hold down safety switch while turning the ignition key. 2. Replace ignition switch. 3. Replace fuse. 4. Clean and tighten battery cables. 5. Charge the battery. 6. See your Dealer. 7. Fill fuel tank.
Engine is difficult to restart	<ol style="list-style-type: none"> 1. Out of fuel. 2. Fuel filter is dirty. 3. Faulty spark plug. 4. Air cleaner is plugged or dirty. 5. Faulty engine. 	<ol style="list-style-type: none"> 1. Fill fuel tank with clean, fresh fuel. 2. Replace fuel filter. 3. Replace spark plug. 4. Clean or replace air cleaner. 5. Refer to the engine manual or see your Dealer.
Cut is poor	<ol style="list-style-type: none"> 1. Deck is clogged with grass. 2. Blades are dull. 3. Cutting wet grass. 4. Cutting too low. 5. PTO belt is slipping. 	<ol style="list-style-type: none"> 1. Clean the deck cutting chamber. 2. Sharpen or replace blades. 3. Wait for grass to dry. 4. Raise cutting height and cut grass in two or more passes. 5. Adjust or replace PTO belt.
Grass does not disperse evenly	<ol style="list-style-type: none"> 1. Deck is clogged with grass. 2. Blades are dull. 3. Cutting wet grass. 4. Cutting too low. 	<ol style="list-style-type: none"> 1. Clean the deck cutting chamber. 2. Sharpen or replace blades. 3. Wait for grass to dry. 4. Raise cutting height and cut grass in two or more passes.
Mower does not bag clippings	<ol style="list-style-type: none"> 1. Deck is clogged with grass. 2. Blades are dull. 3. Cutting wet grass. 4. Cutting too low. 5. PTO belt is slipping. 	<ol style="list-style-type: none"> 1. Clean the deck cutting chamber. 2. Sharpen or replace blades. 3. Wait for grass to dry. 4. Raise cutting height and cut grass in two or more passes. 5. Adjust or replace PTO belt.
Wheel drive does not engage	<ol style="list-style-type: none"> 1. Loose or damaged drive belts. 2. Damaged drive cable. 3. Damaged transmission or drive component. 	<ol style="list-style-type: none"> 1. Adjust or replace drive belts. See <i>Wheel Drive Belts</i> on page 20. 2. Replace drive cable. See your authorized dealer for repairs. 3. See your authorized dealer for repairs.

SERVICE PARTS

Always use genuine Gravely parts to keep your mower running like new.

Part Number	Description
03746500	Blade
03797300	Mulching Blade
07200529	Forward Traction Belt
07200506	Reverse Traction Belt
07243300	PTO Belt
07234300	Deck Belt
21534100	Spark Plug

ACCESSORIES

See your authorized Gravely Dealer to add these optional accessories.

71106100	Bagger Kit
71510800	Mulch Kit

SPECIFICATIONS

Model Number	911411
Description	WAW 34
Length - in. (cm)	68.5 (174)
Height - in. (cm)	38 (96.5)
Width - in. (cm)	36 (91.4)
Actual Weight - lbs (kg)	276 (125.2)
Cutting Width- in. (cm)	34 (86.3)
Cutting Height - in. (cm)	1.75 – 3.5 (4.4 – 8.9)
Engine, 4 cycle	Briggs & Stratton
Model	I/C
Governed RPM (May be different from maximum rpm.)	3600 +/- 100
Displacement Cu. In. (cc)	21 (344)
Cylinder Bore	Aluminum
Engine Oil Type	See Engine Manual
Crank Case Capacity - Oz. (Liter)	48 (1.4)
Oil System	See Engine Manual
Spark Plug Gap - in. (mm)	See Engine Manual
Fuel Type	See Engine Manual
Fuel Tank Capacity - qt (Liter)	10 (9.5)
Air Cleaner	Dual Element
Starting	12V Electric
Differential	Yes
Forward Speed - MPH (km/hr)	3.5 (5.6)
Reverse Speed - MPH (km/hr)	2.0 (3.2)
Mower Deck	Two-Spindle
Front Wheel Dia - in. (cm)	8 (20.3)
Rear Wheel Dia - in. (cm)	13 (33)
Rear Wheel Tire Pressure psi (kPa)	28 (193)
Warranty	2-Year Consumer Warranty



Two-Year Limited Lawn and Garden Warranty

This warranty statement applies only to 21-Inch Walk Behind Lawn Mowers, Wide Area Walks, AMP Wide Area Walks, Tillers, String Trimmers, Log Splitters, Edgers and Power Brushes

Ariens Company (Ariens) warrants to the **original purchaser** that Ariens and Gravely brand consumer products manufactured and sold by Ariens will be free from defects in material and workmanship for a period of two years after the date of purchase. An authorized Ariens dealer (Ariens brand products) or Gravely dealer (Gravely brand products) will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge (labor and parts) to the original purchaser except as noted below.

Two-Year Limited Warranty on AMP™ Series Battery Packs and Subassemblies

The battery pack and/or battery subassemblies on AMP series electric mowers is/are warranted to the **original purchaser** for two years from the date of purchase. Ariens will replace, free of charge to the original purchaser, any battery pack and/or battery subassembly that fails due to defect in material or workmanship for one year after the date of purchase. For the next 12 months, Ariens will cover the prorated cost of replacing a battery pack and/or battery subassembly that fails due to defect in material or workmanship. This warranty does not apply to battery packs or battery subassemblies that fail due to accident, neglect, abuse, improper maintenance, improper storage or improper charging procedures.

One-Year Limited Warranty on Professional/Commercial 21-inch Walk-Behind Lawn Mowers

21-inch walk-behind lawn mowers labeled or designated by Ariens as a Professional/Commercial product put to any business use, agricultural, commercial, or industrial, are warranted to the **original purchaser** to be free from defects in material and workmanship for a period of one year after the date of purchase.

90-Day Limited Warranty on Service Parts and Accessories

Genuine Ariens or Gravely brand service parts and accessories are warranted to be free from defects in material and workmanship for a period of 90 days after the date of purchase. An authorized Ariens or Gravely dealer will repair or replace any such part or accessory free of charge, except for labor, during that period.

Except for 21-inch walk-behind lawn mowers labeled or designated by Ariens as a Professional/Commercial product, the duration of all warranties herein applies only if the product is put to personal use around a household or residence. If the product is put to any business use, agricultural, commercial, or industrial, then the duration of these warranties shall be 90 days after the date of purchase. If any product is rented or leased, then the duration of these warranties shall be 90 days after the date of purchase.

Exceptions, Limitations, Exclusions

Customer Responsibilities

Register the product immediately at the time of sale. If the dealer does not register the product, the customer must complete the product registration card in the literature package and return it to the Ariens Company, or register the unit online at www.ariens.com or www.gravely.com.

To obtain warranty service, the **original purchaser** must:

- Perform the maintenance and minor adjustments explained in the owner's manual.
- Promptly notify Ariens or an authorized Ariens or Gravely service representative of the need for warranty service.
- Transport the product to and from the place of warranty service.
- Have the warranty service performed by an authorized Ariens or Gravely service representative.

To find an Ariens or Gravely authorized service representative, contact Ariens at:

655 W. Ryan Street
Brillion, WI 54110
(920) 756 - 2141
www.ariens.com
www.gravely.com

Exceptions and Limitations

- Batteries are warranted only for a period of 12 months after date of purchase, on a prorated basis. For the first 90 days of the warranty period, a defective battery will be replaced free of charge. If the applicable warranty period is more than 90 days, Ariens will cover the prorated cost of any defective battery, for up to 12 months after the date of purchase. This battery limited warranty does not apply to the battery packs on AMP series products.

Exclusions – Items Not Covered by This Warranty

- Engines and engine accessories are covered only by the engine manufacturer's warranty and are not covered by this warranty.
- Parts that are not genuine Ariens or Gravely service parts are not covered by this warranty.
- The following maintenance, service and replacement items are not covered by this warranty unless they are noted in the Limitations section above: lubricants, spark plugs, oil, oil filters, air filters, fuel filters, brake linings, brake arms, brake shoes, runners, scraper blades, shear bolts, mower blades, mower vanes, tines, brushes, headlights, light bulbs, knives, cutters.
- Any misuse, alteration, improper assembly, improper adjustment, neglect, or accident which requires repair is not covered by this warranty.
- This warranty applies only to products purchased in the United States (including Puerto Rico) and Canada. In all other countries, contact place of purchase for warranty information.

Disclaimer

Ariens may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Ariens to incorporate such design changes into previously manufactured products, nor shall such changes be construed as an admission that previous designs were defective.

LIMITATION OF REMEDY AND DAMAGES

Ariens Company's liability under this warranty, and under any implied warranty that may exist, is limited to repair of any defect in workmanship, and repair or replacement of any defective part. Ariens shall not be liable for incidental, special, or consequential damages (including lost profits). Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

DISCLAIMER OF FURTHER WARRANTY

Ariens Company makes no warranty, express or implied, other than what is expressly made in this warranty. If the law of your state provides that an implied warranty of merchantability, or an implied warranty of fitness for particular purpose, or any other implied warranty, applies to Ariens Company, then any such implied warranty is limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



GRAVELY
655 West Ryan Street
Brillion, WI 54110-1072
920-756-2141
Fax 920-756-2407
www.gravelly.com

 **WARNING** 

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.